

ABSTRACT

A method for measuring amplified spontaneous emission (ASE) content in a beam of laser radiation emitted by a laser master oscillator power-amplifier system comprises directing the beam of light into a two-beam interferometer having unequal beam path lengths. The two beams interfering in the interferometer have equal amplitude and form a pattern of interference fringes. The beam-path difference is arranged to be greater than the coherence length of the ASE so that the ASE content of the beam does not form interference fringes but provides a background level of light in the interference pattern. This enables the ASE content of the beam to be determined from measurements of the maximum intensity of a bright fringe and the minimum energy of a dark fringe in the interference pattern.